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# Health and Wellness Program for the Analytical Chemistry Organization

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## Carey Norton - Bio

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- Chemical Hygiene Officer and Safety Coordinator for the Analytical Chemistry Organization at B&W Y-12
- M.S. in Safety (industrial/occupational)
- B.S. Biology, minor in chemistry

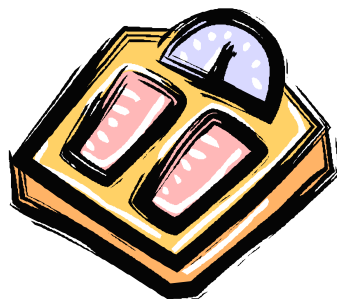
# Introduction

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- Overweight and obesity are both labels for ranges of weight that are greater than what is generally considered healthy for a given height.
- The terms also identify ranges of weight that have been shown to increase the likelihood of certain diseases and other health problems
- Treatment for overweight and obesity requires lifestyle changes which may include:
  - Reducing calorie intake
  - Following a healthy eating plan
  - Being physically active
  - Making behavioral changes

# Definitions

- Overweight and obesity ranges are determined by using a person's weight and height to calculate their "body mass index" (BMI)
- BMI generally provides a reliable indicator of body fatness for most people and is used to screen for weight categories that may lead to health problems
  - An adult who has a BMI between 25 and 29.9 is considered overweight.
  - An adult who has a BMI of 30 or higher is considered obese



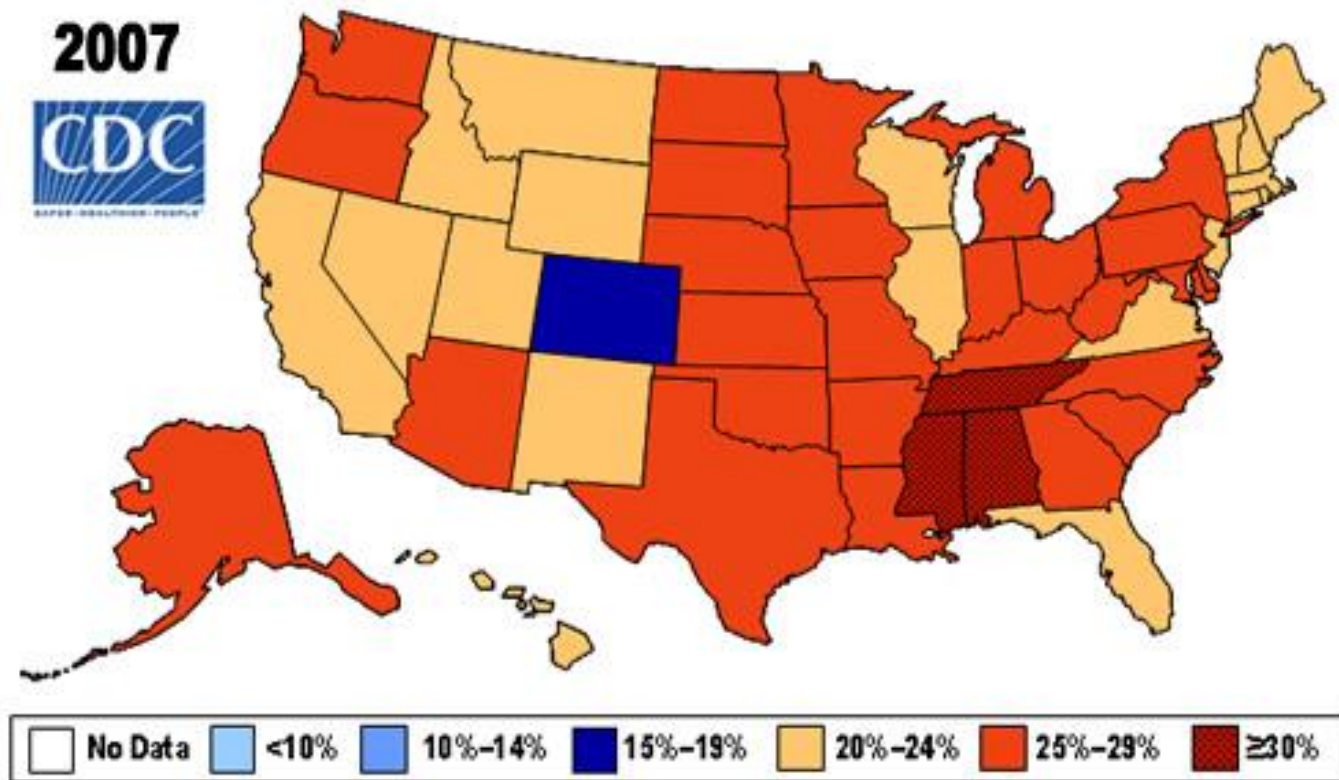
# Health Consequences

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- Coronary heart disease
- Type 2 diabetes
- Cancers (endometrial, breast, and colon)
- Hypertension (high blood pressure)
- Dyslipidemia (for example, high total cholesterol or high levels of triglycerides)
- Stroke
- Liver and Gallbladder disease
- Sleep apnea and respiratory problems
- Osteoarthritis (a degeneration of cartilage and its underlying bone within a joint)
- Gynecological problems (abnormal menses, infertility)

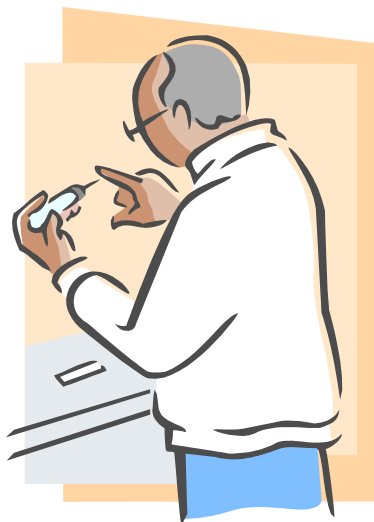
# Where do we Stand?

- The Centers for Disease Control (CDC) indicate that Tennessee has the third highest rate of obesity (BMI  $\geq 30$ ) in the nation with 30.1% of its residents considered to be obese



# Statistics

- According to Y-12 Occupational Health Services (OHS), 40% of employees evaluated by OHS were overweight or obese in 2008
- Diabetes is the leading cause for insurance claims filed by Y-12 employees
- Back pain and coronary artery disease (CAD) are the second and third highest cause for insurance claims at Y-12





# Barriers to Healthy Living

- Lack of Knowledge--Individuals are aware of dangers involved with excessive weight or obesity, but lack knowledge to overcome unhealthy habits
- Lack of resources--Individuals may be unfamiliar with vast resources that are available to combat obesity
- Lack of reinforcement--Many individuals may have great intentions to start a diet or exercise plan, but the system may fail quickly because the person does not receive the positive support from significant others
- Lack of motivation--Many folks neglect their health because the pleasures from routine habits simply “out-weigh” the effort to achieve and/or maintain a healthy living lifestyle

# Keys to Success

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- Benefits of weight loss can include:
  - Improved health
  - Disease prevention
  - Increased energy
  - Increased confidence
  - Lower insurance costs
- Wellness programs can help employees in their journey to a healthier way of life
- Group programs may be more beneficial in providing support and motivation for the participants
- Support from management can encourage more participation in such programs

# Program Description

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- Inspiration taken from the popular television series, “The Biggest Loser”
- Twelve week challenge for participants to adopt a more focused approach to health, wellness, and physical fitness
- Initiated to overcome the before-mentioned “Barriers to Healthy Living”
- Designed to educate, assist, inspire, and motivate individuals to adopt a healthy living lifestyle
- Catered to meet a vast variety of fitness goals and objectives
- Involved a system of accountability and weekly monitoring of progress

# Program Description Cont.

- Individual goals as well as group goals were determined
- 41 participants were divided into 5 teams
- A variety of contests help ensure participation, excitement, and motivation
- Consistent weekly weigh-ins were conducted for accountability and progression
- Weekly individual and group progress reports were distributed
- Formalized recognition program for weekly and final achievement



# Contests

- ***"Biggest loser" individual ---***  
determined by % body weight lost  
(Male category and female category)
- ***Group competition-***  
5 teams competing for the title "Biggest Loser group"  
determined by group % body weight lost
- ***Personal goal setting achievement---***  
Each participant was asked for a perceived goal, and would be evaluated at the end of 12 weeks to monitor achievement or level of success

## Instruction/ Reinforcement

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- Each week weigh-ins were conducted and the results were posted for the Top 10 cumulative weight loss “Individual Losers”. Group results were also monitored and shared weekly.
- The Union Valley group held weekly meetings hosted by health and fitness experts from within the Y-12 facility
- Some participants held weekly lunchroom discussions and participated in walks during lunch
- Several family members of the Y-12 employees became involved due to the nature of the event and the results that were being achieved

# Recognition

- 1st-3rd Place individual winners from the male/ female category
- Group winner
- Goal achievement recognition
- Special awards of outstanding achievement
- Several vendors have volunteered their services and have contributed to the success of this program



# Results

- At the end of the 12 week period, the Biggest Loser participants lost a combined weight of **401.5 pounds !!!**
- The average weight loss per individual was 5%
- Nine participants **lost over 10% of their body weight**
- The winning group (of the 5 participating groups) was 9995 Sample Management which lost an incredible 7.7 % of their weight (129 total pounds)!
- The Biggest Loser Male was from the Union Valley group, losing 14.4 % of his weight
- The Biggest Loser Female was from the Union Valley group as well, losing 10.2 % of her weight





# Response

- This program has been well received by the group as well as supervisors and management – many have expressed interest in a continued program
- Some participants are now preparing for their first 5K foot race, others have formed a hiking group, others have become actively involved in a walking routine (often during their lunch break)
- Many say their attitude has changed, spouses are involved, they have more energy and stamina, etc
- Many proclaimed proudly, "I haven't weighed this in \_\_\_\_\_ years!" After hearing from so many, I tallied the responses up and we now have erased **135+ years of cumulative weight gain!**

## In Conclusion...

- A small group of the Y-12 population has now become more energetic, developed more stamina, improved blood chemistry while reducing the burdens that are associated with excessive body weight
- Participants are more confident and take pride in their fitness level, and enjoy sharing like-minded interest with others in the work place
- A continued program would be beneficial to help maintain the positive results achieved by this 12 week challenge



# References

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- Centers for Disease Control – Overweight and Obesity Topics  
<http://www.cdc.gov/obesity/index.html>
- National Institutes of Health – Obesity Topics  
<http://health.nih.gov/topic/Obesity>